



REPLACEMENT CLAIMS

Please cancel claims 5 and 6 without prejudice.

Please add new claims 19-26 as follows:

19. A method of fabricating a three-dimensional periodic structure comprising the steps of:

Sub
D1
5 forming layers with at least two kinds of materials sequentially and periodically on a substrate having two-dimensionally periodically recessed or projecting portions; and

CI
10 employing sputter etching one of separately from film deposition and simultaneously with film deposition, at least in a part of said structure, while keeping a pattern of the recessed or projecting portions without alignment process per each layer.

20. The method of claim 19, wherein said deposition is further characterized by incidence of particles.

21. The method of claim 19, wherein a period of said structure further comprises at least two kinds of layers including a layer mainly comprising SiO₂ and a layer mainly comprising Si.

22. A structure fabricated by the method of claim 19, comprising at least two kinds of material, at least one said material being a transparent material whose period in at least

one dimension is of the order of or a fraction of a wavelength
5 of concerned light.

23. The structure of claim 22, wherein a part of said
structure comprises at least one of a material having a
nonlinear optical susceptibility, an electrooptic material, a
light emitting material, a light amplifying material, and a
5 conductive material.

24. The structure of claim 22, wherein said structure
further comprises layers having diffraction effects of light.

25. The structure of claim 22, wherein said structure
further shows optical biaxial anisotropy.

26. The structure of claim 22, wherein said structure
further shows dispersion characteristics near the edge of a
forbidden frequency band.
